STUDIES OF WESTERN NORTH AMERICAN CARABINÆ (COLEOPTERA) WITH DESCRIPTIONS OF NEW SPECIES

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Trachypachus slevini Van Dyke, new species

Robust, elongate, elliptical, piceous, brilliantly bronzed and shining above, less so beneath, antennæ rufo-piceous, legs rufous. Head three-fourths breadth of prothorax, convex, smooth and shining, eyes but slightly convex. Prothorax three-fourths as long as broad, apex emarginate, anterior angles prominent, base bisinuate; sides moderately arcuate in front, almost straight and parallel behind, rather broadly margined; disc convex, smooth and shining, median longitudinal line complete and finely impressed, basal transverse impression deep, ending externally in deep and oblique basal foveæ, the carinæ prominent and extending forwards and inwards from the hind angles. Elytra three-fifths as broad as long, slightly broader at base than prothorax, widest at middle; sides evenly arcuate from base to apex, apical angles quite acute; disc convex, deeply and coarsely punctured, finer at sides and apex, the punctures arranged in rows, the striæ but faintly defined and only near suture. Length, 7 mm.; breadth, 3 mm.

Type, a unique female, No. 1616, Mus. Calif. Acad. Sci., captured at **Olney** (near Astoria), **Oregon,** in July, 1911, by Mr. J. R. Slevin.

This fine species, I take pleasure in naming after its captor. It differs from our other species, *Trachypachus inermis* Mots. and *Trachypachus gibbsi* Lec., by being considerably larger, proportionally more elongate, less robust and convex, by having the eyes less prominent, and the elytra very coarsely punctured.

The tribe to which this insect belongs is a very peculiar one, both because of the physical peculiarities and the distribution. In appearance, the species resemble some of the smaller *Amara* or, even more, certain of the genus *Bembidium* like *Bembidium nitidum* Kirby. They, however, have a character, the extension of the posterior coxæ to the lateral margins, which is to be found in no other Carabidæ, and thus places them in a more or less isolated position. The tribe contains but two genera: *Systolosoma* Sol. with one species, *Systolosoma breve* Sol., restricted to Southern Chili, and *Trachypachus* Mots. with *Trachypachus zetterstedi* Gyll., found in the extreme northern portion of Europe and in Siberia, the two questionable species

Trachypachus transversicollis Mots. and *Trachypachus laticollis* Mots. from the Amur region of Siberia, and three species found in the northwestern part of North America. Of these last, *Trachypachus slevini* n. sp. has only been found as indicated at Olney, Oregon, that is, in the wet belt or maritime portion of the Pacific Slope; *Trachypachus inermis* Mots. along the Pacific Coast from Southeastern Alaska to San Francisco, California, and at high levels along the Cascade Mountains and northern Sierra Nevada Mountains and through the Rocky Mountains as far as Colorado; while *Trachypachus gibbsi* Lec. is found in western Washington and Oregon and continues along the coast into Humboldt County, California, and from Oregon along the Cascades and Sierra Nevada Mountains as far south as Mt. Whitney. The three species of *Trachypachus* described by Colonel Casey[1] are undoubtedly synonyms of the above, *Trachypachus alticola* Csy. being the same as *Trachypachus gibbsi* Lec. and *Trachypachus oregonus* Csy. and *Trachypachus specularis* Csy., the same as *Trachypachus inermis* Mots. My series of specimens not only runs them together, but shows a continuous distribution. *Trachypachus holmbergi* Mann. (Bul. Mosc. XXVI, 1853, p. 119) is a synonym of *Trachypachus inermis* Mots. and *Trachypachus californicus* Mots. (Bul. Mosc. XXXVII, 1864, p. 194) undoubtedly is a synonym of *Trachypachus gibbsi* Lec.

The following table will aid in separating our species:

Prothorax distinctly narrower at base than at middle, basal transverse impression deep.

Eyes slightly convex, elytra with rows of deep and coarse punctures over entire area. Length, 7 mm. ..... *slevini* n. sp.

Eyes very convex, elytra quite smooth, the basal portions of but three or four rows of minute punctures indicated. Length, 4.5-5.5 mm. ..... *inermis* Mots.

Prothorax but little narrower at base than at middle, basal transverse impression vague. Eyes prominent, the elytra with remnants of four or five rows of fine punctures. Length, 6. mm. ..... *gibbsi* Lec.

Elaphrus parviceps Van Dyke, new species

Moderately robust, somewhat shining, upper surface closely and finely punctate, greenish bronze, the sides more evidently greenish, ocellate spots of elytra a deep violet. Head slightly longer than broad across eyes, eyes but moderately prominent, far less so than is the rule

1 "Memoirs on the Coleoptera," IX, by Thos. L. Casey, April 8, 1920, pp. 144-146.

in the genus, the breadth of head across eyes as a result, but slightly greater than breadth of prothorax, front finely closely punctate. Prothorax longer than broad, less than two-thirds as broad as elytra at humeri and about two-fifths length of elytra, apex barely arcuate, base with a definite and broad median lobe; sides evenly rounded at anterior two-thirds, deeply sinuate posteriorly; posterior angles acute; disc irregular as usual. Elytra four-fifths as broad as long, broadest behind the middle; disc with two rows of three elongate callosities; ocellate spots well marked, but hardly depressed. Beneath coarsely and not closely punctured on head behind the eyes, on pro, meso, and metathorax and epipleuræ, the abdomen finely and sparsely punctate. Length, 7.5 mm.; breadth, 4 mm.

Type, a female, No. 1617, Mus. Calif. Acad. Sci., collected some years ago at **Teller, Seward Peninsula, Alaska,** by Mr. Robert M. Price and by him kindly presented to me. One or two other specimens have been seen in the United States National Museum collection.

This species superficially looks like a large robust *Elaphrus riparius* Linn., but it is distinctly separated from that, as well as from all of our other species by the much narrower head, the more prominent and acute posterior angles to the prothorax and the type of punctuation beneath. It is possible that this species may be the same as one of the old world species, but I have so far not been able to find any described one that will tally with it.

Elaphrus lævigatus Lec. and *Elaphrus caseyi* Leng (*politus* Casey) are one and the same, the type locality for both being San Francisco, California. Colonel Casey was evidently misled by the tables given in the Bulletin of the Brooklyn Entomological Society,[2] where *lævigatus* was erroneously listed from "Mich." and "Brit. Co." The species is confined to California.

Loricera pilicornis sierræ Van Dyke, new subspecies

Loricera semipunctata Esch. and *Loricera californica* Lec. are one and the same, the first name having priority. San Francisco, California, is the type locality for both. Dr. LeConte was in error in considering *semipunctatus* as a synonym of *Loricera cœrulescens* Linn. or, as it should be called, *Loricera pilicornis* Fab., the name *cœrulescens* Linn. not applying to a species of *Loricera* at all according to European authorities. *Loricera pilicornis* Fab. has never been found near the coast in

2 Bul. Brooklyn Ent. Society, vol. I, p. 6.

California, though a phase has been found in the high Sierra which I list as a variety under the name *sierræ*. This last is somewhat smaller than the usual *Loricera pilicornis* Fab., and smoother, but it has the obtuse hind angles to the prothorax, the æneous prothorax and general facies. *Loricera semipunctata* Esch. is, in reality, an offshoot of *Loricera decempunctata* Esch., the latter extending along the coast from Alaska to Mendocino County, California, the former replacing it to the south, being found in the counties of Sonoma, Marin, and San Francisco.

Loricera congesta Mann. is but a phase or subspecies at the most of *Loricera pilicornis* Fab. In a small series which I took near Dutch Harbor, Unalaska Island, Alaska, are a number which have the prothoracic disc with two well-defined foveæ such as were noted in the description of the original type from Kenai, as well as one or two without that feature. All of the specimens were quite robust, slightly larger than the usual *Loricera pilicornis* Fab. and with the striæ very well defined, but otherwise not different.

A revised table for the separation of our species would be as follows:

Elytra with a single series of foveolæ
  Sides of prothorax oblique posteriorly, hind angles obtuse
    Disc of prothorax without distinct foveolæ in front of middle
      Elytral striæ and punctures moderately coarse. Length, 7.5-9 mm. ..... *pilicornis* Fab.
      Elytral striæ and punctures fine. Length, 7 mm. ..... *pilicornis* var. *sierræ* n. subsp.
    Disc of prothorax with distinct foveolæ in front of middle. Length, 9 mm. ..... *pilicornis* var. *congesta* Mann.
  Sides of prothorax sinuate posteriorly, hind angles subrectangular, ... *semipunctatis* Esch.
Elytra with a double series of foveolæ
  Legs black, hind angles of prothorax rectangular..... *decempunctata* Esch.
  Legs testaceous, hind angles of prothorax obtuse..... *foveata* Lec.

The type of *Loricera pilicornis sierræ* n. subsp. is a male (No. 1618, Mus. Calif. Acad. Sci.) collected by myself near **Tallac**, Lake Tahoe, **California,** in June, 1899, and is in my collection.[3] Two female paratypes collected at the same time

[3] As my collection of Coleoptera has been deeded to the California Academy of Sciences, all my types will become a part of the type series of that institution.

are also in my collection, and I have placed here a fourth specimen from Bear Lake, San Bernardino Mountains, collected June, 1897, by Mr. H. C. Fall.

The bibliography and synonomy of our species should read:

1. *Loricera pilicornis* (Fab.). Syst. Ent. 1775, p. 243.
   neostica Lec., New Spec. Col. I, p. 3; Smith Misc. Coll. VI, 1863.
   Subsp. *uteana* Casey, Mem. Col. IX, 1920, p. 147.
   Subsp. *sierræ* Van Dyke, new subsp.
   Subsp. *congesta* Mann., Bul. Mosc. 1853, III, p. 121.
2. *Loricera semipunctata* Esch., Zoo. Atl. V, p. 25, t. 25, f. 7; Mann., Bul. Mosc., 1853, III, p. 122.
   californica Lec., New Spec. Col. I, p. 3; Smith Misc. Coll. VI, 1863.
3. *Loricera decempunctata* Esch., Zoo. Atl. V, p. 25, t. 25, f. 7; Mann., Bul. Mosc., 1853, III, p. 122.
4. *Loricera foveata* Lec., Ann. Lyc. Nat. Hist. N. Y., v., 1851, p. 180.

Nebria riversi Van Dyke, new species

Robust, elongate, head and prothorax black above with a slight purple reflection, the elytra a metallic greenish purple color, beneath somewhat rufo-piceous. Head with two rufous spots on the front between the eyes, four-fifths as broad as prothorax, eyes not prominent, barely projecting beyond the sides of the head, antennæ one-half length of body. Prothorax three-fifths as long at middle as broad, less than five-sevenths as broad as elytra, apex biemarginate, base slightly more than three-fifths as broad as prothorax at broadest part, and broadly and but slightly emarginate; sides broadly and evenly arcuate for anterior two-thirds, distinctly sinuate posteriorly, the lateral margin narrow, the anterior angles rounded and prominent, the posterior right; the disc slightly convex, with median longitudinal and anterior and posterior transverse impressions well defined. Elytra about three times as long as prothorax, elongate elliptical; humeri rounded; striæ deep and finely punctate, the intervals convex and regular, no evident foveæ. Legs long. Length, 17 mm.; breadth, 6.5 mm.

Type, male (No. 1619), allotype, female (No. 1620, Mus. Calif. Acad. Sci.), and paratype male and female in my collection, secured by myself from out of rocky crevices along the margins of a glacial stream at the base of the Lyell Glacier, about 11,500 feet, on **Mt. Lyell, California,** July 13, 1921. Another paratype loaned to me for study by Dr. Hans Roeschke of Berlin was captured many years ago by Mr. John Lambert on the same mountain and presented to Mr. J. J. Rivers, later going with the sale of the Rivers' collection of Carabidæ to Dr. Roeschke.

This splendid and very local species is probably our largest Nebria, being slightly larger than large *Nebria trifaria* Lec. or *Nebria ingens* Horn. It somewhat resembles the latter and is perhaps related to that, but it is generally more robust, is decidedly metallic above, in contrast to the inky blackness of the other, has the elytral humeri more prominent, indicating a less degree of alar atrophy, and the elytral striæ somewhat deeper and more definitely punctured. In neither are there any marked interruptions of the intervals, and the eyes in both are somewhat reduced in size. The general shape of the elytra is much the same as that of *Nebria purpurata* Lec.

Nebria schwarzi Van Dyke, new species

Large robust, a deep and brilliant metallic violet color both above and beneath, with the exception of the antennæ, mouthparts, scutellum, tibiæ and tarsi, which are black. Head a bit less than seven-ninths breadth of prothorax, no interocular red spots, eyes moderately prominent, antennæ long and delicate, extending beyond the middle of the elytra. Prothorax five-ninths as long as broad, nine-elevenths as broad as elytra, apex deeply emarginate; sides rather broadly arcuate for anterior two-thirds, gradually sinuate behind and with large rectangular hind angles, the reflexed margin narrow and evenly elevated, the sulcus within shallow and not broad; the base narrowly biemarginate; the disc convex with the median longitudinal line finely impressed, the anterior and posterior transverse impressions broad, shallow and well marked, the anal and basal areas finely, irregularly punctate. Elytra almost four times as long as prothorax, base almost transverse, humeri well defined but rounded at apex, the sides quite straight and parallel, the margin fine; the disc slightly convex but flattened at middle, the striæ deeply impressed throughout and with the punctures very vague, the intervals convex, generally broader behind, the third, fifth and seventh distinctly catenate throughout, the foveæ varying from seven to eight per stria. The true wing is 3 mm. longer than elytra, the veins large and heavily pigmented throughout, the membrane anteriorly more or less pigmented but posteriorly distinctly hyaline. The legs moderately long but well developed. Length, 14 mm.; breadth, 5.5 mm.

Type, male, collected by Mr. E. A. Schwarz at **Banff, Alberta,** October 6, bearing the number 1057 and belonging to the United States National Museum. This specimen was kindly loaned to me some years ago by Mr. Schwarz for purposes of study. Several paratypes, males and females, have been selected and designated from a series of twenty specimens in my collection, secured by my wife and myself from the margins of a stream which joins the Bow River at Banff, Alberta, June

15-17, 1918. This glorious species, the most beautiful in our fauna, is named in honor of Mr. E. A. Schwarz. It is rather closely related to the species which I am describing next, and, with that, belongs to the *Metallica* group of *Nebria*. It is about as large as *Nebria trifaria* Lec. and has the interrupted elytral intervals as fully catenate, though it differs greatly otherwise, especially as regards color and form, in which latter respect it more closely resembles some phases of *Nebria metallica* Fisch. It, however, is much larger than this last and with the elytral intervals more convex.

Nebria piperi Van Dyke, new species

Large, robust, a deep and brilliant metallic violet above, antennæ, mouthparts, legs, and undersides black. Head three-fourths breadth of prothorax, no interocular red spots, eyes moderately prominent, antennæ long and delicate, extending beyond the middle of elytra. Prothorax five-eighths as long as broad, four-fifths as broad as elytra, apex deeply emarginate; sides rather broadly arcuate for anterior two-thirds, obliquely sinuate behind and with hind angles large and but slightly obtuse, the reflexed margin narrow and evenly elevated, the sulcus within of moderate depth and width, the base vaguely biemarginate; the disc convex with the median longitudinal line finely impressed, the anterior and posterior transverse impressions well marked, the anal and basal areas finely irregularly punctate. Elytra over three and a half times as long as prothorax, humeri prominent but well rounded; sides almost straight anteriorly, evenly rounded posteriorly, the margin fine, the disc slightly convex, but flattened at the middle, the striæ distinctly impressed and rather finely closely punctate, the intervals quite flat, broader behind, the third, fifth and seventh distinctly catenate, the foveal interruptions varying from five to seven per stria. The true wing at least 3 mm. longer than the elytra, the veins large and heavily pigmented, the membrane distinctly pigmented anteriorly, but also definitely suffused posteriorly, giving the wing a brown appearance. The legs moderately long, but well developed. Length 13 mm.; breadth, 5.5 mm.

Type, male (No. 1621), allotype, female (No. 1622, Mus. Calif. Acad. Sci.), and several paratype males and females, selected from a large series collected by Mr. A. M. Elliott along the margins of the Nesqually River, just below the foot of the Nesqually Glacier, **Mt. Rainier National Park, Washington,** October 5, 1912, and kindly presented to me by the late Professor O. B. Johnson of Seattle. I also collected a good series of the species myself at the same locality, during July, 1920, and have other specimens from Mt. Baker, Washington, collected by Professor Trevor Kincaid, the Olympic Mountains

and Glacier Peak, Washington, and British Columbia. It is named in honor of the botanist, Mr. C. V. Piper, in recognition of his efforts to add to our knowledge of the alpine Coleopterous fauna of the Cascade Mountains.

This species belongs near *Nebria schwarzi* n. sp. and superficially closely resembles it. It differs from that by being slightly shorter and by having the elytra proportionally broader, smoother, the striæ shallower and definitely punctured, the intervals quite flat, and by having the true wings pigmented throughout. These two quite distinct species, though evidently of common origin, now occupy quite distinct territories: *schwarzi* the northern Rockies of Canada, and *piperi* the more northern mountains of Washington.

Nebria meanyi Van Dyke, new species

Elongate, black, elytra a deep violet with slight greenish tinge in certain lights, legs piceous, shining. Head five-sevenths breadth of prothorax, with two obscure reddish spots on front between the eyes, eyes moderately prominent, antennæ long and delicate, two-thirds length of body. Prothorax five-sevenths as long as broad, seven-tenths as broad as elytra, apex deeply emarginate; sides broadly arcuate for anterior two-thirds, subangulate at point of greatest width, abruptly sinuate behind and straight and almost parallel for posterior fourth; lateral margin moderate in width and strongly inflexed, the sulcus within deep and quite broad; anterior angles prominent and narrowly rounded at apex; posterior angles prominent, subacute and projecting slightly backwards; base broadly shallowly emarginate; disc slightly convex and vaguely and somewhat transversely strigose, the median longitudinal line finely impressed; anterior and posterior transverse impressions well marked; anal and basal areas punctate. Elytra over three times as long as prothorax, with humeri well defined but rounded, the margin rather fine; disc somewhat convex, but flattened at middle; striæ fine, distinctly impressed and finely punctured, the second to the seventh quite sinuate posteriorly; intervals narrowed and convex in front, broader and flatter behind, the third, fifth and seventh distinctly catenate or interrupted in posterior half by about five shallow foveæ. True wing at least 2 mm. longer than the elytra, the legs long and slender. Length, 13 mm.; breadth, 4.5 mm.

Type, male (No. 1623), allotype, female (No. 1624, Mus. Calif. Acad. Sci.), and two paratype females, in my collection, taken under rocks close to the Nesqually River and but a short distance below the foot of the glacier, in the **Mt. Rainier National Park, Washington,** September 5, 1912, by Mr. A. M. Elliott. Five other specimens are also in my collection, three

secured by myself at the same locality, July 15, 1920, and two from Glacier Peak, Washington, collected June 30, 1910, by Professor E. S. Meany. All of the specimens not collected by myself were kindly presented to me by Professor O. B. Johnson, in whose collection, now belonging to the University of Washington, are other specimens. The species is named for Professor Meany, in appreciation of his generosity in acting as a collector in the high mountains of Washington.

This species superficially looks much like *Nebria purpurata* Lec. and should be placed close to that in our lists, but it differs by having the elytra alone distinctly metallic, the prothorax more evidently constricted behind, the sides posteriorly parallel and the hind angles subacute, in contrast with the oblique sides and obtuse hind angles of *purpurata,* by having the lateral margins moderately broad, quite reflexed and with a broad sulcus within, as against a narrow margin and sulcus in the other, the elytral humeri more definite and the true wings longer than the elytra, whereas they are barely half the length in the other. This species is also liable to be confused with *Nebria gebleri* Dej. This latter is, however, generally more brilliantly metallic, often cupreous, a color lacking in the other, slightly smaller and distinctly proportionally shorter, with a broader prothorax, the elytra shorter, the striæ but vaguely punctate, the intervals flat, the third, fifth and seventh though more or less interrupted by the foveæ, not so regularly so nor so distinctly catenate. The true wings are also slightly shorter and broader than in *meanyi* and the small, wedge-shaped and oblong cells (see Ganglbauer [4]) much shorter and broader.

Nebria spatulata Van Dyke, new species

Elongate, narrow, piceous black, antennæ, palpi, tibiæ and tarsi somewhat rufous. Head moderately shining, with two red spots on the front, two-thirds as broad as prothorax, eyes moderately prominent, antennæ somewhat robust, though fully one-half length of body. Prothorax two-thirds as long as broad, three-fourths as broad as elytra, apex emarginate, base five-sixths as broad as prothorax at broadest part and faintly emarginate; sides moderately arcuate anteriorly, the posterior third oblique, convergent and barely sinuate, the anterior angles prominent and narrowly rounded, the posterior angles sharply defined and slightly obtuse, the margin narrow, the sulcus within fairly broad; the disc convex and with median longitudinal and anterior and posterior transverse impressions distinct, the lateral

[4] Ganglbauer, Die Käfer von Mitteleuropa, vol. I, p. 22, fig. 22, K.

areas slightly rugose, the posterior very much so. Elytra elongate elliptical, broadest at middle, over three times as long as prothorax, four-sevenths as broad as long; sides quite evenly arcuate from base to apex, the margins narrow; disc slightly convex, not flattened at middle, the seven inner striæ distinctly defined and finely impressed from base to apex and finely somewhat vaguely punctured, the intervals convex anteriorly, flattened behind and not interrupted, the third with two vague foveæ behind, and the seventh with three equally spaced and distinct foveæ. Legs long and delicate. Length, 10.5 mm.; breadth, 4 mm.

Type, a unique female collected by Mr. Ralph Hopping at **Franklin Lake, Tulare County, California,** September 8, and kindly loaned to me for purposes of study and description. This specimen will be deposited in the California Academy of Sciences (Type No. 1625) through the generosity of Mr. Hopping.

This species, because of its decidedly rounded humeri and undoubtedly atrophied wings, would come in our tables near *Nebria ovipennis* Lec. To my mind, however, it is but an offshoot of the *Nebria sahlbergi* Fisch. stock which with *Nebria ingens* Horn, itself an offshoot of *Nebria trifaria* Lec., has been left stranded in our high Southern Sierra and like it, through disuse, has completely lost its wings and as a result had the humeral area greatly reduced. In size, color and general appearance, it greatly resembles *Nebria castanea* Bon. of the Alps, though perhaps has its elytra even more like those of *Nebria cordicollis* Chd., a species also found in the Alps.

Nebria lyelli Van Dyke, new species

Elongate, narrow, nigropiceous, antennæ, mouthparts, tibia and tarsi, and median portions of undersides of body rufous. Head moderately smooth, the two rufous spots on the front between the eyes vaguely defined, somewhat over two-thirds breadth of prothorax, eyes moderately prominent, antennæ long and delicate, fully reaching the posterior third of the elytra. Prothorax two-thirds as long as broad, less than three-fourths as broad as elytra, apex biemarginate, base about four-fifths of greatest breadth of prothorax and slightly emarginate; sides decidedly arcuate anteriorly, sinuate posteriorly and almost parallel near hind angles, the anterior angles prominent and narrowly rounded at apex, the posterior angles sharply defined and right-angled, the margin narrow, likewise the sulcus within; the disc convex and with median longitudinal and posterior transverse impressions distinct, the anterior transverse less so, the posterior area punctate rugose, elsewhere quite smooth. Elytra elongate elliptical, broadest posterior to middle, over three times as long as prothorax,

two-thirds as broad as long, the margins narrow; disc slightly convex, slightly flattened at middle, the striæ well defined and moderately impressed, finely and distinctly punctate, the intervals convex anteriorly, somewhat flattened behind, not interrupted, the third striæ with from three to four vague foveæ. Legs long and delicate. Length, 10 mm.; breadth, 4 mm.

Type, male (No. 1626, Mus. Calif. Acad Sci.), and three paratype males in my collection, secured by me along the margins of glacier streams at an altitude of about 11,000 feet, on **Mt. Lyell,** Yosemite National Park, **California,** July 13, 1921.

This species is of about the same size and general appearance as the species previously described, but it differs chiefly as regards its antennæ, the shape of the elytra and the much more distinct punctuation of the striæ. It, in fact, looks much like a diminutive *Nebria gregaria* Fisch. *Nebria ovipennis* Lec., which is sometimes found with it is, of course, easily separated from it by its more robust build and larger size.

Nebria crassicornis Van Dyke, new species

Moderate in size, compactly built and dark brown, the margins of the prothorax and elytra somewhat lighter, and the palpi, antennæ and feet dark rufous. Head five-sevenths as broad as prothorax, interocular red spots not evident, eyes moderately prominent, antennæ short and stout, not reaching to the middle of the elytra. Prothorax at middle four-sevenths as long as broad, seven-ninths as broad as elytra, apex deeply emarginate; sides broadly arcuate anteriorly, thence oblique and acutely sinuate just in front of hind angles, the hind angles acute and slightly divergent; lateral margins of moderate width and evenly reflexed, the sulcus within rather shallow and vaguely punctured; base shallowly biemarginate; disc with the median longitudinal line finely though distinctly impressed, the anterior transverse impression distinct, the posterior deeper and punctured. Elytra three and a half times as long as prothorax at middle; humeri prominent but rounded, sides straight and but slightly divergent, the margin fine; disc convex, flattened at middle; striæ finely impressed, complete and but finely and vaguely punctate, the intervals quite flat, not interrupted; third striæ with from three to six fine foveæ (the type with four). True wings 4 mm. longer than the elytra; veins distinct; membrane slightly brownish, especially anteriorly. Legs stout and of moderate length. Length, 11 mm.; breadth, 4.5 mm.

Type, male (No. 1627), allotype, female (No. 1628, Mus. Calif. Acad. Sci.), and several paratypes, in my collection, captured by myself in **Paradise Park, Rainier National Park, Washington,** July 15, 1905. Paratypes will also be deposited

in the United States National Museum and Philadelphia Academy of Sciences. Several hundred specimens have been examined. It is very abundant on the slopes of Mt. Rainier (Mt. Tacoma), at altitudes between five and seven thousand feet, and has also been taken in other parts of the high Cascade Mountains, as on Glacier Peak, as well as on the Olympic Mountains of Washington. The species is generally to be found under cover in moist places in the woods, on the margins of bogs, and on the moist mountain slopes not far below the melting snow. They are rarely found close to running water, as is the case with most of the species of the genus.

This medium-sized, almost unicolorous greasy brown species, is very close to *Nebria labradorica* Casey, specimens of which I have from Jasper Park and Lake Louise, Alberta, in the Canadian Rockies, as well as from Labrador. It, however, differs from that by being generally more robust, with eyes less prominent, antennæ shorter and decidedly stouter, thorax broader, and true wings with both veins and membrane distinctly less pigmented. These two species no doubt had a common origin, but have sufficiently diverged to be recognized as distinct species. *Nebria crassicornis* n. sp. differs from all other American *Nebria* by its very robust antennæ; from the true *Nebria sahlbergi* Fisch., also by lacking the well defined interocular red spots, by having a broader and shorter prothorax, by lacking the distinct punctate striæ, and by being brown instead of black; from *Nebria rathvoni* Lec. by lacking the interocular red areas, the definite catenation of certain of the alternate elytral intervals, and the less parallel-sided elytra, as well as by its color; from *Nebria hudsonica* Lec. by having the prothorax broader proportionally at base, by being smaller, with shorter and stouter legs, as well as by being of a different color.

Metrius contractus planatus Van Dyke,
new subspecies

This subspecies or race differs from the typical species in having the prothorax quite flattened and the disc of the elytra also flattened. It is to be found only in the more alpine portions of the Lake Tahoe region of California as above Fallen Leaf Lake, Glen Alpine Springs, and Desolation Valley.

Type, male (No. 1629), and allotype, female (No. 1630,

Mus. Calif. Acad. Sci.), in my collection, taken by myself above **Fallen Leaf Lake**, Lake Tahoe region, **California**, June 20, 1915. Besides these I possess ten other specimens, some from the same locality, others from Desolation Valley at least 1500 feet higher, all quite similar. A number of these will be designated as paratypes.

The typical *Metrius contractus* Esch. extends along the coastal area of the Pacific States from western Washington to somewhat below Monterey, California, and along the western flanks of the Sierra Nevada Mountains to below Calaveras County, California. The subspecies *planatus* is an alpine race restricted to the middle Sierra and *Metrius subsericeus* Rivers, an offshoot of *Metrius contractus* Esch., which replaces it in the southern Sierra, that is, in the mountains of Fresno and Tulare Counties. At present we have no specimens from the territory between Calaveras and Fresno Counties, but when we do secure them the probabilities are that we shall find them to be intermediate between *Metrius contractus* Esch. and *Metrius subsericeus* Rivers, thus reducing the latter to a subspecies of the former.

The three forms of *Metrius* may be separated as follows:

General surface more or less shining.
  Disc of prothorax and elytra convex .....*contractus* Esch.
  Disc of prothorax and elytra flattened....*contractus planatus* n. subsp.
General surface opaque and with disc of prothorax and elytra very convex.....*subsericeus* Rivers

Promecognathus Chd.

There is but one species of this genus, *lævissimus* Dej. The other so-called species, *crassus* Lec. and *debilis* Casey, are not even true geographical races or subspecies. They are mere phases or forms which occur in all cases with the more typical form. The robust phase, *crassus* Lec., occurs only in the damp coastal valleys or cañons where the environment is at the optimum for the species, and the depauperized *debilis* Casey, as a rule, in the drier and more open country where conditions are the most unfavorable for the existence of the species. This peculiar type of polymorphism is parallel to that observed in some of the other subterranean Carabiadæ, like many of the Scaratinæ, as well as among many lignivorous Coleoptera, like the Lucanidæ, Dynastinæ, Cerambycidæ, Brenthidæ, and so

forth, and undoubtedly is primarily due to nutritional conditions.

Clivina californica Van Dyke, new species

Of the general size and form of *Clivina americana* Dej., smooth and shining, piceous black, antennæ, palpi, legs, narrow margins of prothorax beneath, epipleuræ, and posterior borders of ventral segments ferruginous. Head with deep punctiform frontal fovea; clypeus with large and distinctly separated lateral lobes; eyes moderately prominent. Prothorax ovate, obscurely dentate at hind angles, broadest just posterior to middle, thence convergent and gradually rounded to anterior angles, the anterior angles broadly rounded; disc quite convex, with longitudinal and anterior transverse grooves well impressed, a few fine transverse rugæ and a few fine punctures near the middle. Elytra over twice as long as prothorax, and itself about twice as wide as broad; humeri well rounded, sides almost straight and slightly diverging to beyond middle, thence gradually rounded and oblique to apex; disc moderately convex; sutural striæ complete, the next five not quite reaching the deeply grooved seventh at apex, all well impressed and very finely punctate in basal two-thirds, the intervals convex in front and flattened behind, the third with four well marked setigerous punctures. Anterior legs with the tibiæ provided with three well-developed spinous processes, the apical long and but slightly curved, directed almost directly forwards, the two lateral somewhat less prominent than in *americana;* femora deeply sinuate near the tip. Middle tibiæ without spurs near the tip on either side. The paranychia elongate. Beneath subopaque and finely alutaceous. Length, 5 mm.; breadth, 2 mm.

Type (No. 1631, Mus. Calif. Acad. Sci.), and paratype, in my collection, taken by myself on the shores of **Clear Lake, Lake County, California,** in May, 1895. Two other specimens, collected by Mr. Morton C. Lane at Banta, California, November 18, 1919, and now in his collection, have also been designated as paratypes.

This species belongs near *Clivina americana* Dej. and superficially resembles it. It differs from this, however, as well as from *Clivina analis* Putz. by being more convex, with the prothorax of a different shape, the sides anteriorly more rounded and convergent and the anterior angles more broadly rounded, the elytra proportionally shorter, with sides more rounded, apex more pointed, and the discal striæ more complete. From *Clivina punctulata* Lec., the only other *Clivina* found in California, it differs not only in color, but also by being more robust, less linear and parallel, and by not possessing the spur near the other margin of the middle tibiæ.

Clivina sulcipennis Putz [5]

Within the last few years I have seen a number of specimens of what appear to be this species, which was unknown to Dr. LeConte and hence not listed in his synoptic table. They were all collected by Mr. H. P. Loding in the neighborhood of Mobile, Alabama. The beetles are slightly larger than *Clivina impressifrons* Lec., 6.5 mm. in length; black, with antennæ, mouthparts and legs rufous; head with punctiform frontal fovea and clypeus, with well-separated lateral lobes; prothorax as broad as long, with sides parallel, and disc impunctate; elytra with striæ absolutely complete and deeply impressed, sulcate, faintly punctate anteriorly and with convex intervals; anterior femora not dentate and the middle tibia with a spur near the outer tip. It would come in our tables near *Clivina rubicunda* Lec., but its size, color, and the very deep and absolutely complete striæ, will readily separate it from that as well as from any of our other species.

Schizogenius pygmæus Van Dyke, new species

Small, depressed, shining, rufous; antennæ, mouthparts and legs rufocastaneous. Head with frontal sulci well defined, the occipital area but moderately punctured and shining; eyes prominent, almost hemispherical; mentum toothed at middle, with lobes obliquely emarginate. Prothorax as broad as long, slightly convex; sides feebly arcuate, rather definitely convergent and rounded near anterior angles, the posterior angles rounded and with but a vague tooth; disc slightly convex, with the usual grooves well marked and the two marginal setæ present. Elytra depressed, over twice as long as broad and twice as long as prothorax; humeri rounded, with but vague dentations; striæ well impressed and distinctly punctured except near apex, the intervals flattened, the third, fifth and seventh with rows of setigerous punctures. Length, 3 mm., breadth, 8 mm.

Type (No. 1632, Mus. Calif. Acad. Sci.), and three paratypes in my collection, secured by myself on the shores of **Clear Lake, Lake County, California,** May, 1895.

This species in size, color and general appearance is much like *Schizogenius amphibius* Hald. and should be placed near it. It differs from that, though, by having much more prominent eyes, a less parallel-sided prothorax with the anterior and posterior angles more rounded, the posterior not distinctly dentate as in *amphibius,* by having both prothorax and elytra a bit more convex, and the elytra with more rounded humeri and but vague dentation there.

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5 "Revision Generale Des Clivinides," par J. Putzeys, Anns. Soc. Ent. Belgique, vol. IX (1886), p. 156.